

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference LW8052PC	FOR FURTHER ACTION	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/KR 03/01719	International filing date (<i>day/month/year</i>) 26 August 2003 (26.08.2003)	(Earliest) Priority Date (<i>day/month/year</i>) 5 September 2002 (05.09.2002)	
Applicant SAMSUNG ELECTRONICS CO., LTD.			

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:
 - contained in the international application in written form.
 - filed together with the international application in computer readable form.
 - furnished subsequently to this Authority in written form.
 - furnished subsequently to this Authority in computer readable form.
 - the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
 - the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. **Certain claims were found unsearchable** (See Box I).

3. **Unity of invention is lacking** (See Box II).

4. With regard to the **title**,

- the text is approved as submitted by the applicant.
- the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- the text is approved as submitted by the applicant.
- the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.: 6A

- as suggested by the applicant.
- because the applicant failed to suggest a figure.
- because this figure better characterizes the invention.

None of the figures.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR 03/01719-0

Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

LCD device includes two substrate (110, 172) a first (174) and second color filters, two liquid crystal layers (120). The first color filters (174) are formed on portions of the second substrate (172) corresponding to border area. The second color filters are formed on portions of the second substrate (172) corresponding to the display area except the border area. A first liquid crystal layer (120) between the first and the second substrate (110, 172) is comprised in border area, and a zero electric field is formed on the first liquid crystal layer so as to completely transmit light incident into the first liquid crystal layer therethrough. A borderline having various colors can be displayed by forming various patterns of color filters (174) having various colors on portions of the second substrate (172) corresponding to the border area under normally white mode, thereby producing picture frame effect while images are displayed on the screen.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR 03/01719-0

CLASSIFICATION OF SUBJECT MATTER

IPC⁷: G02F 1/1335, G09G 3/36

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC⁷: G02F, G09G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC, WPI, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 10 187099 A (CASIO COMPUT) 14 July 1998 (14.07.98) <i>fig. 1-8; [0031] - [0050]; [0061] - [0089].</i>	1,6,9- 11,13,15,16 4,17-19,20-22
A		
Y.	EP 1022604 A2 (CANON) 26 July 2000 (26.07.00) <i>column 4, line 31 - column 5, line 49; fig. 4,5.</i>	1,6,9- 11,13,15,16 3,4
A	WO 01/57838 A1 (SEIKO EPSON) 9 August 2001 (09.08.01) <i>fig. 1-4,8; [0044].</i>	1,17,19-21

Further documents are listed in the continuation of Box C.

See patent family annex.

- * Special categories of cited documents:
- ..A“ document defining the general state of the art which is not considered to be of particular relevance
- ..E“ earlier application or patent but published on or after the international filing date
- ..L“ document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- ..O“ document referring to an oral disclosure, use, exhibition or other means
- ..P“ document published prior to the international filing date but later than the priority date claimed

- ..T“ later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- ..X“ document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- ..Y“ document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- ,&“ document member of the same patent family

Date of the actual completion of the international search
11 December 2003 (11.12.2003)

Date of mailing of the international search report
11 February 2004 (11.02.2004)

Name and mailing address of the ISA/AT
**Austrian Patent Office
Dresdner Straße 87, A-1200 Vienna
Facsimile No. 1/53424/535**

Authorized officer
GRONAU E.
Telephone No. 1/53424/320

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR 03/01719-0

Patent document cited in search report	Publication date	Patent family member(s)			Publication date
EP A 1022604	2000-07-26	EP	A	1378785	2004-01-07
		DE	D	69333192D	2003-10-09
		DE	D	69333137D	2003-09-11
		DE	T	69330318T	2001-10-31
		DE	D	69330318D	2001-07-19
JP A 10187099 A2				none	
WO A 157838				none	